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April 21, 2004
G-1241-WDE-076

Anna Filutowski
RCRA Compliance Unit, WCM-126
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Subject: *Phase 1 Transformer PCB Investigation Report Revised Appendix E – Data Validation* Submittal; Responses to Appendix E-Related Comments
Boeing Plant 2, Seattle/Tukwila, Washington
EPA ID No. WAD 00925 6819
RCRA Docket No. 1092-01-22-3008(h)

Dear Ms. Filutowski:

Consistent with your letter of April 9, 2004 on this subject, please find enclosed ten paper copies of the *Phase 1 Transformer PCB Investigation Report Revised Appendix E – Data Validation* for your review. For convenience, this revision resubmits the initial Appendix E – now with the additional materials requested in your comments. Each paper copy includes a CD of Appendix. As before, we will provide Appendix E copies directly to Brad Helland and Hideo Fujita, Washington State Department of Ecology, and to Jorgensen and Seattle representatives.

This letter also provides a response (attached) to EPA's April 9 comments specific to the report's Data Validation. In short, we found that while some of EPA's comments in this regard were correct in noting some mistakes in our original Report that will be revised, other comments appeared to not reflect the EPA-approved Work Plan that governed our work and validation. We thus need to point out these apparent discrepancies in EPA's direction, and we look forward to receiving further input and/or clarification on these important details.

Consistent with your April 9, 2004 letter, we are working towards submitting to EPA a Phase 2 draft work plan by May 10, 2004. Please don't hesitate to contact me if you have any questions or comments.

Sincerely,

Will Ernst

Will Ernst
Plant 2 Project Coordinator
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Enclosure: Ten copies of Revised Appendix E, each w/ CD copy
Attachment: Boeing Response to associated EPA Comments

cc: Howard Orlean, EPA (by email w/o enclosure)
Hideo Fujita, Department of Ecology (by email only)
Brad Helland, Department of Ecology (by email only)

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Response to EPA Comments regarding Appendix E

Boeing received comments on the above referenced report from EPA on April 9, 2004. EPA required that only Appendix E of that report be resubmitted. This response, which is attached to the Appendix E transmittal letter, provides Boeing's necessary responses to specific EPA comments regarding Appendix E and associated data validation requirements. EPA's comments on other aspects of the Report will be addressed as requested separate from this transmittal.

APPENDIX E – DATA VALIDATION (DV) REPORTS

Comment 1 – Field Duplicates

Field duplicates for upland samples were not an integral part of the data quality objectives, which were to collect samples across a dense grid to map out the extent of contamination. For this reason, field duplicates were not specified to be collected as shown in Table 1 of the approved work plan (dated February 25, 2003). Laboratory duplicates were analyzed as required by the work plan, however.

Comment 2 – Weston August 5, 2003, 2 Water Samples

The water samples in question were rinsate blanks. As such, they are not reported in data summary tables within the text of the report.

Comment 3 – Weston, August 6, 2003, Summary Review of 180 Soil and 20 Water

Per Section 4.5 of the Work Plan, a full Tier III data validation was required on only two data packages. The remaining data packages, including the one in question and those reviewed by Saylor Data Solutions, only received a cursory Tier II review according to the Work Plan. Therefore, discussion of instrument calibration related to this data package is not required. Regarding identifying the specific sample numbers associated with specific laboratory group numbers, this information is contained in Table E-1.

Comment 4 – Saylor Data Solutions, December 3, 2003

Consistent with the Work Plan, only cursory data validation was performed on these samples. This affects our response to several of the reviewer's comments.

Sample Ids

A sample cross reference has been added to the DV report.

Initial and Continuing Calibration

Evaluation of initial and continuing calibration was not specified in the Work Plan.

Section 2.5 – Surrogate Recoveries

In the first paragraph, "Tetrachlorometaxylene recoveries were acceptable" refers only to those samples analyzed at a dilution with DCBP not reported. The verbiage has been clarified, and the specific samples IDs have been added.

Section 2.6 – SRM Discussion

In the absence of QAPP-specified control limits for SRM data, the results are evaluated in conjunction with spike and surrogate results to identify systematic laboratory biases. Unless trends or clusters of low or high recoveries are present, qualifiers are not assigned. Additional detail has been added to the report.

Section 2.10 – Dual Column RPD

Sample numbers were specified in Section 6, the qualifier summary table. They have now been added to the section 2.10 discussion. These qualifiers were assigned based on laboratory flags alone. Validation was limited to a summary (Tier 2) validation and quantitations were not evaluated. An evaluation of whether the low, average, or high concentration was reported was not made.

Section 6.0 – Qualifier Table Missing Field Duplicate Qualifier

Field duplicates are considered QC samples, and are not qualified as part of the data validation.

Section 6.0 – Qualifier Table Missing R1s for SD-DUW153-0000

These are present. The sample was reported in two separate batches, and the RE/RX nomenclature was not used. The sample is listed as SD-DUW 153-0000 (FU01) in the qualifier table.

Section 6.0 – References to Section 3.3.2 and Table 2.

This was an error. This section should reference Tables 3.1 through 3.3. The report has been updated.

J Qualifiers on 1254 and 1248 for SD-DUW157-0020.

There are actually two things going on here:

1. All lab qualifiers listed as "Y" have been shown in the table as "UY." The definitions of the lab's "Y" qualifier and our "UY" are the same. The "U" is included in our qualifier to make it easier for the reader to understand that the associated value is a "non-detect" rather than a detected concentration. The "Y"

indicates an elevated detection limit caused by the presence of an interference – generally another PCB Aroclor at concentrations well above the detection limit of the qualified PCB value.

2. For Aroclor 1260 in the Sample SD-DUW157-0020, the lab qualifier of Y was assigned at the lab. This was changed to a UY consistent with the above paragraph. The data validation process then identified high variability in the sample based on the % RPD with the field duplicate; this resulted in the 1260 result being qualified as "UJ."

The DV report summary qualifier table has been revised to make this more clear. The "UJ" flags on the other two non-detected Aroclors should have remained "UY" flags as the reviewer noted. They will be corrected in the final report.

Report Table Missing Field Duplicate Qualifier Sample SD-DUW157D-0020 Aroclor 1260

Field duplicates are considered QC samples, and are not qualified as part of the data validation.

What Other Field Samples were Considered for Qualification

The majority of the calculated field duplicate RPDs (four out of five) were below the 50% criteria and, therefore, qualifiers were only assigned to the Aroclor 1260 result of sample SD-DUW157-0020.

"P" Qualifiers

In the process of performing this review, we also identified two samples with "P" qualifiers in Table 3.3. These results were qualified "J" in the DV report. These two "P" qualifiers will be changed to "J" when the table is reproduced in the final report.